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DRINKING & DRIVING IN ONTARIO

Statistical Yearbook
1991

Drinking/Driving Countermeasures Office

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DRINKING & DRIVING IN ONTARIO

Statistical Yearbook
1991

November 1992

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APPENDIX A: DRINKING AND DRIVING IN ONTARIO: 1991 STATISTICS A1-A15

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1.0 INTRODUCTION

1.1 Background

During the 1980s, a wave of interest and concern about drinking and driving swept North America. And while other issues of similar importance and urgency have come and gone over the past decade, drinking and driving has remained a prominent issue on the public agenda. The level of interest and sustained commitment to the drinking-driving issue have been unprecedented and unparalleled in any other area.

The efforts of the various agencies and people who responded to the drinking-driving problem have not gone unrewarded. The collective success of drinking-driving countermeasure activities in Ontario over the past decade is reflected in the statistics on drinking and driving. This report provides substantial evidence of the progress that has been made.

Again this year, the statistics reveal that the overall magnitude of the drinking-driving problem continues to decrease, albeit slowly. While many people have responded to the anti-drinking and driving message, there remain a substantial number who persist in driving after consuming alcohol. The consequences of their behaviour are evident in the statistics on alcohol-related deaths, injuries, and crashes presented in this report. Despite the substantial progress that has been made in reducing the problem, the statistics contained herein clearly illustrate the magnitude of the problem that remains. Each year, thousands of lives are irreparably altered by drinking drivers. There is a great deal more work to be done.

1.2 Why a "Statistical" Yearbook?

Statistics on impaired driving are a "window" through which one can view part of the reality of drinking and driving, at least in aggregate. To achieve the greatest impact possible from countermeasure activities, there is periodic need for information to monitor progress, to reassess strategies and tactics, and to direct efforts more effectively. In this way, however cold-hearted they seem, statistics on drinking and driving serve a most worthwhile function.

Ontario has many sources of information on drinking and driving that offer insights into the magnitude of this problem and the characteristics of those who drive after drinking. Given the quality of data available, it is also possible to monitor drinking-driving over time and thus describe trends in the alcohol-crash problem.

One aim of the Drinking/Driving Countermeasures Office is to provide useful information to people concerned about drinking and driving, particularly those active in communities across Ontario. In keeping with this aim, the main purpose of this, the fifth statistical report on drinking-driving in Ontario, is to give ready access to data descriptive of drinking-driving problems in the province.

1.3 Scope of This Report

This report presents data on the number of drinking drivers involved in motor vehicle collisions in Ontario for the year 1991. As in previous editions of the statistical yearbook, the following section provides an overview of traffic crash and drinking-driving statistics. It describes the sources of data, definition of the terms and measures used in this report, as well as the limitations of the data.

More detailed descriptions of the data, a review of the magnitude and characteristics of the problem in Ontario, and trends in drinking and driving are presented in Section 3. To a large extent, the descriptions of the data rely on charts to convey the information. The text that accompanies the charts is provided to help guide readers through the seemingly endless array of numbers. As well, prominent findings and changes from previous years are highlighted. For those who wish more detailed information, the data used to construct the charts are contained in a series of tables in the Appendix.

2.0 AN OVERVIEW OF DRINKING AND DRIVING STATISTICS

2.1 Understanding Traffic Crash Statistics

Generally speaking, statistics can be confusing; statistics on traffic crashes can be bewildering. To some extent, at the root of the confusion is the similarity and apparent overlap of terms and definitions used to represent various aspects of the data. For example, the terms "fatal crashes", "drivers involved in fatal crashes", "fatally injured drivers", and "traffic fatalities" are only some of the terms used in this report to describe fatal traffic crashes in Ontario. Despite the similarity of the terms, each represents a slightly different aspect of the problem. It is, however, important to understand that **the terms are not synonymous and cannot be used interchangeably.**

The term "*fatal crash*" refers to a traffic collision in which one or more persons die. In every fatal motor vehicle crash, there are one *or more* "drivers involved". If an involved driver is killed, he or she is a "*fatally injured driver*". All persons killed, whether they are drivers, passengers, pedestrians, or bicyclists, comprise "*traffic fatalities*". To assist in understanding these and the implications of each, consider the following cases:

- A car with a single occupant (driver) strikes and kills a pedestrian. This was a **fatal crash**; there was one **traffic fatality** (victim -- the pedestrian); there was one **driver involved** in this fatal crash but no **fatally injured driver.**
- A car with a single occupant (driver) collides with another vehicle containing a driver and a passenger. Only the passenger dies. Again, this was a **fatal crash**; two **drivers were involved** in the fatal crash but they both survived; there was one **traffic fatality.**
- A car with a driver and passenger collides with a van, occupied by the driver and three passengers. The driver and two of the passengers in the van are killed. Again, there was one **fatal crash.** Two **drivers were involved** in this fatal crash and one was fatally injured. There were three **traffic fatalities.** To summarize, this latter example contains:

- one fatal crash;
- two drivers involved in a fatal crash;
- one fatally injured driver; and,
- a total of three traffic fatalities.

To pursue this illustration further, if a countermeasure were introduced that could have prevented this latter collision, it would have:

- eliminated a single "fatal crash";
- reduced the "number of drivers involved in fatal crashes" by two;
- reduced the number of "fatally injured drivers" by one; and,
- reduced the total number of "traffic fatalities" by three.

Again, the terms described above are decidedly not the same. Unfortunately, persons unfamiliar with the definitions often *take results based on one indicator and inappropriately apply them to another.* Readers are urged to become familiar with these definitions as well as the definitions of other terms used in this report. Definitions are presented in the following section.

2.2 Drinking/Driving Statistics: Definitions

To aid in the understanding and interpretation of the numbers contained in this report, the following definitions and descriptive comments are provided.

2.2.1 Drivers Involved in Traffic Crashes. Data on the number of **drivers** involved in traffic crashes reported by police are the basis from which information about drinking drivers is derived. It is important to bear in mind that **drivers**, not crashes, form the basic "unit of analysis". For example, in any given crash reported by the police, there may be more than one driver involved. Wherever possible, information about alcohol use is reported for all drivers, even if there are several drivers involved in the crash. Unfortunately, in numerous cases, a judgement concerning the use of alcohol by drivers is not made. In addition, the investigating police officer may determine that some other factor -- e.g., driver fatigue, medical or physical defect -- would more accurately describe the condition of the driver. *These latter cases are not included in the statistics reported in this volume.*

It is recognized that counting drivers, not crashes, may underestimate the extent of the alcohol-crash problem. For example, for every drinking driver involved in a multiple-vehicle collision, there is likely to be at least one other nondrinking driver involved. Hence, the counting of all drivers, regardless of fault, appears to inflate the number of nondrinking drivers involved in alcohol-related collisions. Nevertheless, counting drivers, not crashes, more accurately reflects the extent of alcohol use by drivers who become involved in crashes.

Drivers involved in crashes are divided into three groups on the basis of information about their use of alcohol as reported by investigating police officers:

♦ **Normal** (NOR): Driver's condition was apparently normal; i.e., in the opinion of the investigating officer, the driver had *not* been drinking.

♦ **Had Been Drinking** (HBD): Driver had consumed alcohol but, in the opinion of the investigating officer, did not have a blood alcohol concentration (BAC) over the legal limit, nor was the driver otherwise impaired by alcohol.

♦ **Ability to Drive Impaired by Alcohol** (IMP): Driver had a BAC over the legal limit (80 mg%) or was judged impaired by alcohol by the investigating officer.

In addition, drivers in the second and third groups above have been combined in a category termed **Drinking Drivers** (D/D). The term **drinking drivers**, then, refers to all crash-involved drivers reported to have consumed alcohol, that is, to have a positive BAC.

In the tables, the total number of drivers involved in crashes can be obtained by adding the number of drinking drivers (D/D) to the number of normal (i.e., nondrinking) drivers (NOR).

Information about the severity of crashes in which drivers were involved correspond to definitions used by the police and the Ministry of Transportation.

♦ **Property Damage**: Crashes that result in damage to property but no reported injury to persons involved. Crashes causing $700 or more damage are by law "reportable" by police.

♦ **Personal Injury:** Crashes that result in injury to one or more persons involved, but no person *died* of injuries sustained in the crash within thirty days. Of course, personal injury crashes usually cause damage to property, too.

♦ **Fatal:** One or more persons involved in a crash die of the injuries sustained, within thirty days. Nonfatal injury to others as well as property damage may also occur in such crashes.

2.2.2 Drivers Fatally Injured in Traffic Crashes. In Ontario, most drivers killed in traffic crashes are tested for the presence and amount of alcohol. Especially for drivers dying within a few hours of crash involvement, tests for alcohol are routine. In this report, data on alcohol use among drivers of *highway vehicles* (operators of farm tractors, snowmobiles, and bicycles are excluded), who were *16 years of age or older*, and who died within *six hours* of crash involvement are included. Data on alcohol use by fatally injured drivers (including preliminary figures for 1991) come from the Fatality Database maintained by the Traffic Injury Research Foundation of Canada.

2.2.3 Persons Charged with Impaired-driving Offences. As reported by the Canadian Centre for Justice Statistics, the number of "persons charged" with impaired driving offences does not represent an "unduplicated count" of *individuals* charged in a year. Thus, a person charged on more than one occasion will be counted every time they are charged by the police with an impaired driving offence. "Impaired-driving offences" include *driving while impaired*, *having a BAC over 80 mg%*, and *failing or refusing to provide a breath sample* -- for the years 1975 to 1985 -- and, for 1986 through 1990, the additional offences of *impaired operation of a motor vehicle, vessel, or aircraft* (i.e., impaired operation causing death, causing bodily harm, or over 80 mg%) and *failing or refusing to provide a breath or blood sample*. **Rates** of persons charged with such offences are the *number of persons charged per 10,000 licensed drivers*.

2.2.4 Measuring the Magnitude of the Problem Over Time. As a means to assess changes in the alcohol-crash problem over time, this report describes trends in such common "indicators" as: (1) the number and percentage of drinking drivers involved in traffic crashes; (2) the number and percentage of driver fatalities with BACs over 80 mg%; and (3) rates of crash-involved drinking drivers per 1,000 licensed drivers.

The ratio of crash-involved *drinking* drivers to crash-involved "normal" (i.e., nondrinking) drivers -- the Problem Index, described in previous editions of the Statistical Yearbook -- is also presented as a measure to track the alcohol-crash problem over time. Because many factors -- such as weather conditions, seasonal patterns of weather and driving, the state of the economy -- can influence the total number of traffic crashes, simply counting the number of drinking drivers involved in crashes would not reveal whether changes from year to year were the result of specific drinking-driving countermeasure efforts or a consequence of the many other conditions and forces that may have caused the number of all crashes to change. The ratio of drinking driver crashes to nondrinking driver crashes, however, essentially controls for factors that exert a general influence on motor vehicle crash rates and permits an assessment of the extent to which the number of crash-involved drinking drivers has changed **relative to** the number of crash-involved nondrinking (i.e., "normal") drivers. Drinking-driving countermeasure efforts would be expected to have a differential impact on crashes involving drinking drivers; if this occurred, it would be shown by a decrease in the Problem Index.

2.3 Sources of Statistics

Statistics for this report were compiled from a number of sources. Again this year, detailed information on drivers involved in traffic crashes received from the Ontario Ministry of Transportation comprises the primary source of data. These data come from Motor Vehicle Accident Reports completed by investigating police officers. Because the focus of this report is on **drinking drivers** involved in traffic crashes, these statistics complement those published each year by the Ministry of Transportation in the Ontario Road Safety Annual Report (available from the Road User Safety Office of the Ministry). Although derived from the same source, the numbers in this report do not necessarily match those reported by the Ministry of Transportation in the Ontario Road Safety Annual Report. The disparities are, however, nominal (i.e., less than 1%) and are a result of slightly different criteria used to select cases for inclusion.

Statistics from the Fatality Database, developed and maintained by the Traffic Injury Research Foundation of Canada and funded jointly by Transport Canada and the Canadian Council of Motor Transport Administrators, are also presented. Based on reports by coroners and toxicologic tests for alcohol in blood, the Fatality Database contains information on the presence *and the amount* of alcohol consumed by drivers fatally injured in traffic crashes. In reporting these data, only the following drivers are included: drivers of highway vehicles (operators of farm tractors, snowmobiles, and bicycles are excluded); drivers who were 16 years of age and over; and drivers who died within 6 hours of crash involvement. These data have been collected in Ontario since 1973 and are used to describe trends in drinking driver fatalities.

Ontario data from the Canadian Centre for Justice Statistics (CCJS) on the number of persons charged with impaired-driving offences are also summarized. Similar data from previous years are used to describe the changing pattern of impaired driving charges in Ontario.

2.4 Limitations of the Data

This report uses data from a variety of sources in an attempt to provide as comprehensive a picture as possible of the magnitude of the alcohol-crash problem in Ontario. The overall consistency of the data over the past several years provides a reliable and valid indicator of the extent to which the problem has changed. Nevertheless, the data are unable to address several critical and often asked questions concerning the magnitude of the drinking-driving problem, such as, "How many people in Ontario are killed and injured in alcohol-related crashes?" and "How many people sustain permanent physical and/or mental impairments due to alcohol-related crashes?" The answers to these and other equally important questions require special, in-depth studies that involve collecting and linking data from several independent sources. Until these studies are undertaken, such key questions will remain unanswered.

3.0 DRINKING AND DRIVING IN ONTARIO: 1991

This section describes data pertaining to the magnitude and characteristics of the drinking and driving problem in Ontario during 1991 and trends in drinking and driving over the past decade. The text is deliberately brief. It is intended to guide the reader through the seemingly endless array of numbers and to highlight various aspects of the data. Graphs are used extensively in this section as a means to help clarify some of the prominent features of the data. The numbers used to create these figures were derived from the more detailed tables contained in the Appendix.

3.1 Overview

During 1991, the number of drivers involved in traffic crashes in Ontario whose use (or nonuse) of alcohol was reported by police fell by 8.9%, from 342,229 in 1990 to 311,547 in 1991 (Appendix Table 1[1]). The number of drivers reported to have been drinking fell by 9.6% from 15,506 in 1990 to 14,012 in 1991.

Drinking drivers comprised 4.5% of all drivers involved in traffic crashes (fatal, injury-producing and property damage crashes) -- unchanged from the previous two years. Among the drinking drivers involved in these crashes, 6,418 (2.1% of all drivers) were judged to be impaired by alcohol; 7,594 (2.4% of all drivers) were reported to have consumed alcohol (i.e., HBD) but were not impaired.

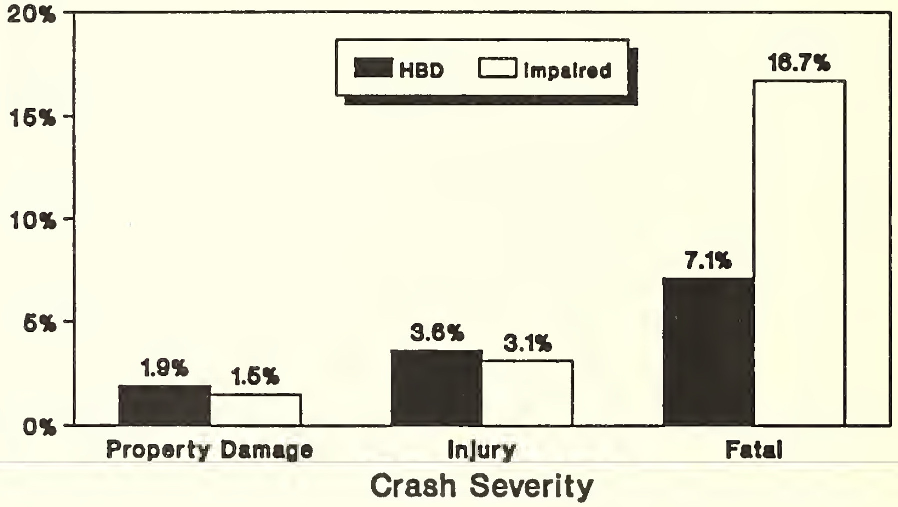
It has been well-established that the more serious a traffic crash, the more likely a drinking driver was involved. Figure 1 shows that in 1991, about 1.9% of drivers involved in *property-damage* crashes had been drinking and a further 1.5% were judged legally impaired by alcohol. Of drivers involved in *injury* crashes, 3.6% had consumed some alcohol and an additional 3.1% were judged to be impaired. Alcohol was present in a considerably higher percentage of drivers involved in *fatal* crashes -- 7.1% had been drinking and an additional 16.7% were impaired.

---

[1] The total number of drivers involved in collisions (311,547) is the sum of drinking drivers (D/D=14,012) and nondrinking drivers (NOR=297,535).

Thus, in property damage and injury crashes, the percentage of drivers who had been drinking (HBD) is greater than that of drivers who were impaired. In fatal crashes, the reverse is true -- impaired drivers account for about twice as many drivers as those who had been drinking. In total, drivers who had consumed alcohol accounted for 3.4% of all drivers involved in property damage crashes, 6.7% of drivers in crashes resulting in personal injury, and 23.8% of drivers involved in fatal crashes.

Figure 1
Percent of Drinking Drivers Involved in Crashes By Type of Collision



Ontario, 1991

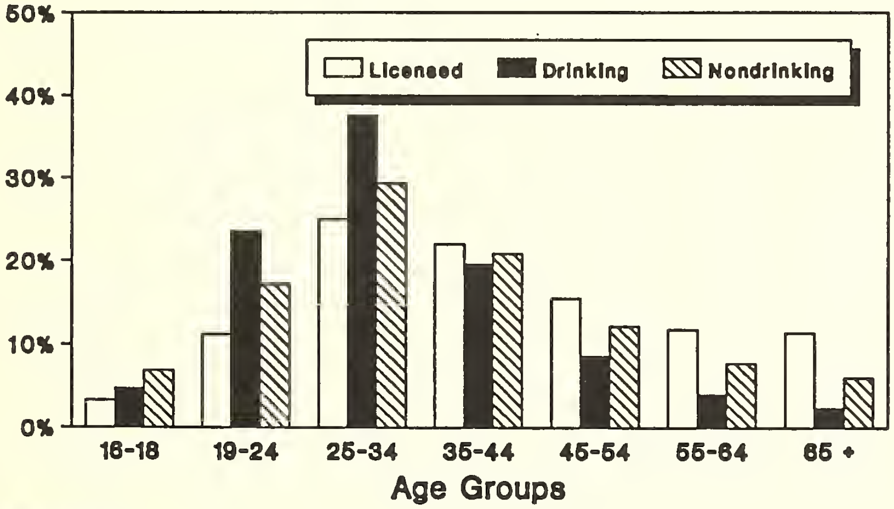
3.2 Characteristics of Drivers Involved in Traffic Crashes: Gender and Age

Overall, in 1991, more than twice as many male as female drivers were involved in crashes *of any severity* (215,474, compared to 96,073). In fatal crashes, male drivers outnumbered female drivers by a margin of almost 3 to 1 (965 compared to 266 -- see Table 1).

In 1991, by far the majority (88%) of the drinking drivers involved in crashes were male. This was true regardless of the severity of the crash (Table 1).

♦ **Age groups.** Figure 2 presents comparative information on seven different age groups in the licensed-driver and crash-involved populations for 1991. It shows the proportion of drinking and nondrinking drivers involved in crashes of any severity accounted for by each age group, relative to the proportion of licensed drivers accounted for by that group. The differences in the height of the bars within a given age group indicates the degree of over- or under-representation of drivers in that age group involved in crashes, relative to their numbers in the licensed-driver population.

Figure 2
Percent of Licensed and Crash-Involved Drivers Grouped by Age

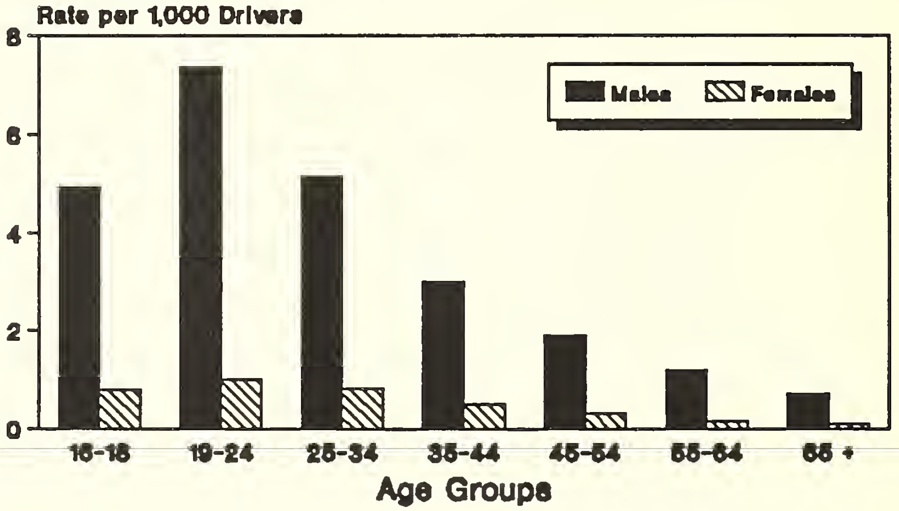


Ontario, 1991

For example, drivers age 25 to 34 accounted for about 26% of all licensed drivers in the province but they accounted for 29% of all nondrinking drivers involved in crashes and 38% of all drinking drivers involved in crashes. Drivers in this age group are thus *overrepresented* both among crash-involved drinking drivers and crash-involved nondrinking drivers, relative to their representation in the licensed-driver population. Similar statements can be made about 16- to 18-year olds and 19- to 24-year olds. By contrast, drivers 45 years of age and older are *underrepresented* among both crash-involved drinking and nondrinking drivers, relative to their numbers in the licensed driver population (see Tables 2 and 3).

♦ **Age and gender.** Figure 3 presents information on the rate of involvement in collisions for male and female drivers of different ages. The rate of involvement (which standardizes comparisons across groups of unequal numbers) represents the number of collisions per 1,000 licensed drivers in each age group. Male drivers of all ages have higher drinking driver crash involvement rates than do females.

Figure 3
Crash-Involvement Rates of Drinking Drivers Grouped by Age and Sex

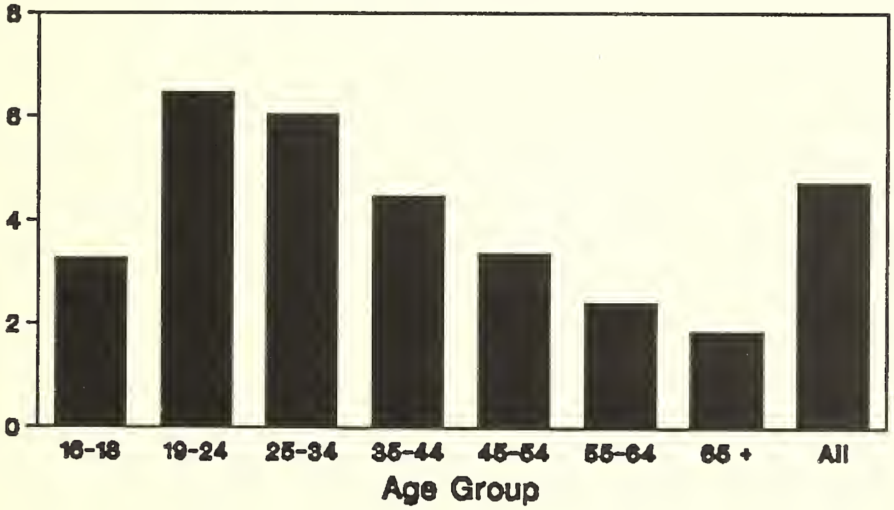


Ontario, 1991

Male drivers age 19 to 24 have the highest drinking-driver crash involvement rate (Table 4). Although drinking-driver crash involvement rates for men are several times higher than those for females, the pattern of rates according to age is very similar for both men and women. Among females, drivers aged 19 to 24 years have the highest drinking-driver crash involvement rate and this rate decreases with increasing age.

♦ **Age: The Problem Index.** Figure 4 shows the "Problem Index" for various age groups in 1991. As described previously, the Problem Index is simply the number of crash-involved drinking drivers divided by the number of crash-involved nondrinking drivers, multiplied by 100. The Problem Index indicates the degree to which drinking and driving is a problem in each age group. Drivers age 19 to 24 and 25 to 34 have the highest Problem Indexes among all age groups. Thereafter, the Problem Index declines progressively with age.

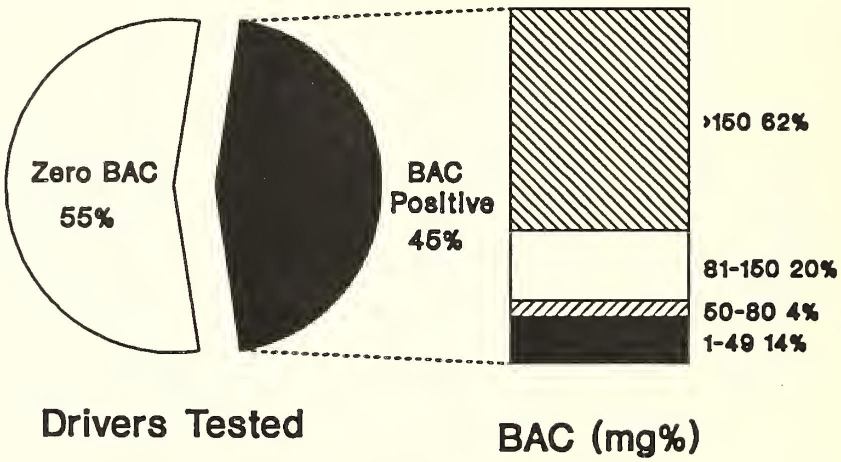
Figure 4
Ratio of Drinking to Nondrinking Crash-Involved Drivers by Age: Problem Index



3.3 Fatally Injured Drivers

As indicated previously, the rate of testing for alcohol among fatally injured drivers in Ontario has remained consistently high. In 1991, 87% of fatally injured drivers were tested for alcohol. Figure 5 shows the percent of fatally injured drivers who were positive for alcohol in 1991 and, among those who had been drinking, the percent at each of four BAC levels. Among fatally injured drivers who were tested, 55% showed no evidence of alcohol; 45% were found to have a positive BAC. Among those who were drinking (the bar on the right), 82% had BACs in excess of the legal limit (80 mg%); this represents 37% of all the fatally injured drivers tested for alcohol (see Table 5). Importantly, among fatally injured drinking drivers, 62% had a BAC over 150 mg%!

Figure 5
Alcohol Use Among Fatally Injured Drivers



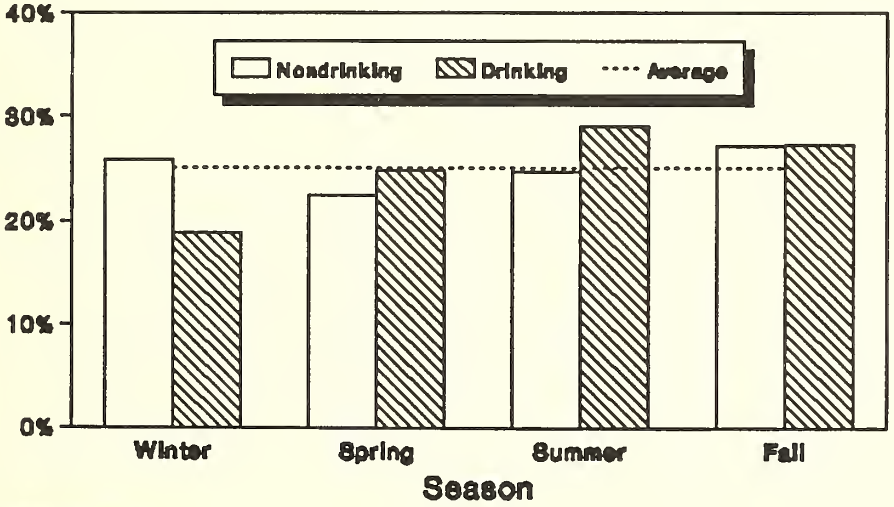
Ontario, 1991

Drivers age 25 to 34 years comprise the largest group of fatally injured drinking drivers (see Table 5). Overall, male drivers are four times as likely as female drivers to die in a traffic crash but among those who were drinking, men outnumber women by almost 10 to 1. Drivers of automobiles comprise the largest group of those who were fatally injured. Of automobile drivers who were tested for alcohol, 41% were found to have been drinking. This compares with 60% of fatally injury motorcyclists who were alcohol positive and 54% of drivers of light trucks and vans. Of the 207 drinking drivers who died in 1991, 64% were involved in collisions involving a single vehicle.

3.4 Characteristics of the Problem: Season, Day, and Hour of Crashes

Figure 6 (see also Table 6) shows the distribution of drinking drivers and nondrinking drivers involved in crashes in each of the four seasons.

Figure 6
Drinking and Nondrinking Drivers
Involved in Crashes By Season



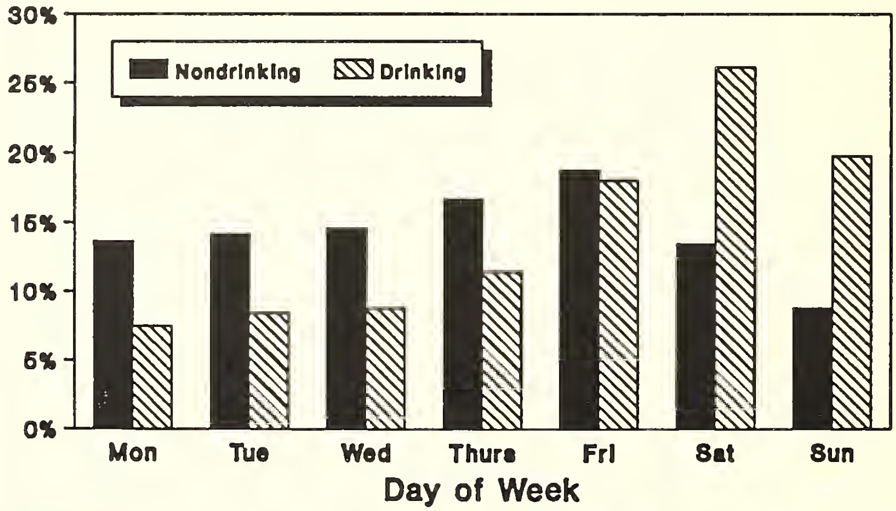
Ontario, 1991

If collisions were evenly distributed across the seasons, then 25% of them would occur in each season. (The line denoting the average illustrates this). Values above the line show a greater percent than expected; values below it, a lower than expected frequency.

As can be seen, nondrinking drivers have more of their crashes during the fall (September, October and November) and less than expected in the spring (March, April, and May). *Drinking drivers crash more frequently in the summer months* (June, July and August) and less frequently in the winter (December, January and February). The smaller number of drinking drivers in crashes during winter may, to some extent, reflect the impact of drinking-driving countermeasures, which traditionally are more prominent during the year-end holiday season.

Figure 7 presents the percentage of drinking and nondrinking drivers involved in crashes according to day of week.

Figure 7
Drinking and Nondrinking Drivers
in Crashes According to Day of Week

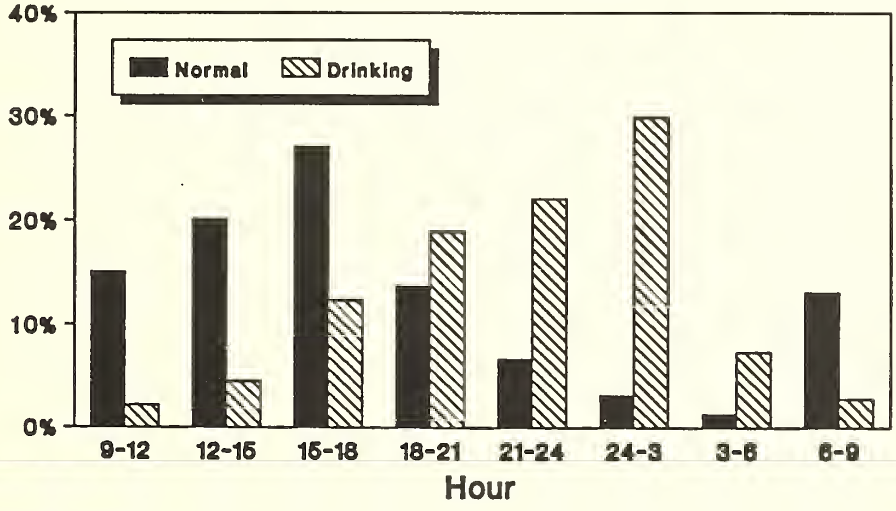


Ontario, 1991

From Monday to Friday, the percent of nondrinking drivers involved in crashes exceeds that of drinking drivers. On Saturday, and Sunday, however, a greater proportion of drinking drivers crash. *Over 25% of drinking drivers are involved in crashes on Saturday, primarily during early morning and late evening hours* (see Tables 7 and 8).

Figure 8 presents the percentage of nondrinking and drinking drivers involved in crashes according to the hour of crash. It is evident that the majority of drivers, whose condition was reported by police as nondrinking, crashed between 9 a.m. and 3 p.m. (i.e., 1500 hours). In contrast, most drinking drivers crashed between 6 p.m. and 3 a.m. (1800 and 0300 hours) (see Table 8). Indeed, nearly one-third of the drinking drivers crashed between midnight and 3 a.m.

Figure 8
Drinking and Nondrinking Drivers According to Hour of Crash



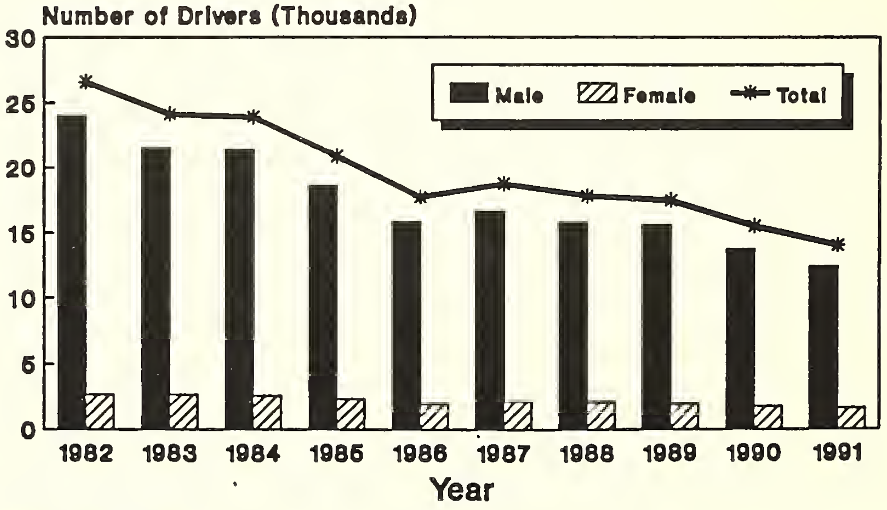
Ontario, 1991

3.5 Trends in Drinking and Driving in Ontario

This section examines trends in drinking and driving in Ontario over the past several years using various indicators of the problem.

♦ **Drinking drivers involved in crashes.** Figure 9 displays the number of crash-involved male and female drinking drivers from 1982 through 1991 (see also Table 1). The total number of crash-involved drinking drivers declined from 26,588 in 1982 to 14,012 in 1991 -- **a 47% decrease!** The decrease was greater for male crash-involved drinking drivers (a 48% decline) than for females (38%). The large decreases in the number of crash-involved drinking drivers apparent during the early to mid-1980s appeared to level off from 1986 through 1989. The downward trend began again in 1990 and continued in 1991. Almost 1,500 fewer drinking drivers were involved in crashes in 1991 than in 1990, a decrease of about 10%.

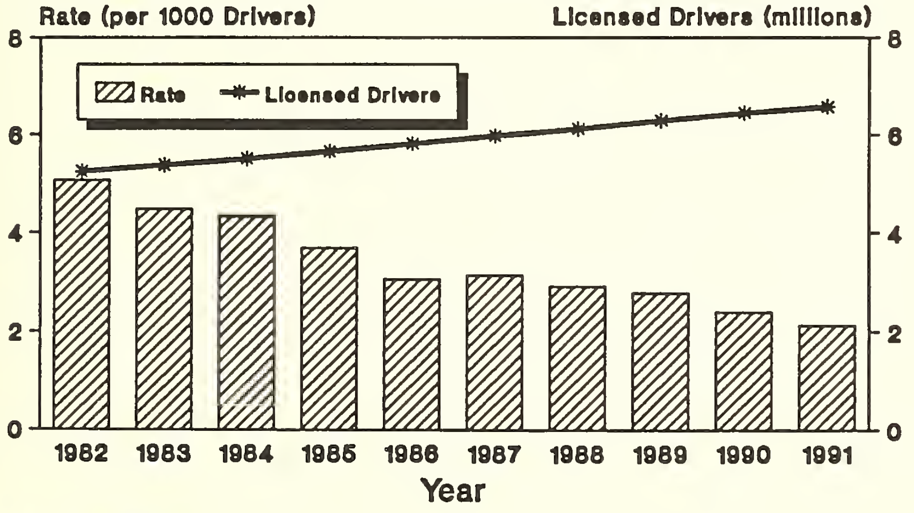
Figure 9
Number of Male and Female Drinking Drivers Involved in Traffic Crashes



Ontario, 1982-1991

♦ **Drinking driver crash rates.** Figure 10 presents the number of crash-involved drinking drivers per 1,000 licensed drivers (represented by the striped bars), from 1982 though 1991. During this period, the number of licensed drivers in Ontario (represented by the line) increased by 20%, from 5.2 million in 1982 to 6.6 million in 1991. At the same time, the number of crash-involved drinking drivers declined by 47% (shown in Figure 9). Hence, when these two opposing trends are combined, the resultant crash rate for drinking drivers has fallen by 58%, from a rate of 5.07 in 1982 to 2.13 in 1991 (see Table 9).

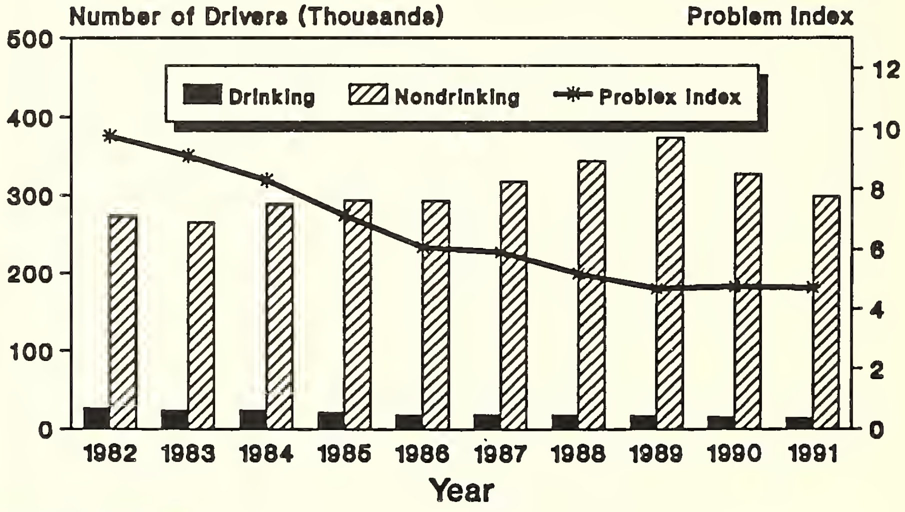
Figure 10
Number of Drinking Drivers in Crashes per 1,000 Licensed Drivers



Ontario, 1982-1991

♦ **The Problem Index.** Figure 11 presents the annual number of crash-involved drinking and nondrinking drivers and the ratio of these two values -- i.e., the Problem Index -- from 1982 through 1991. Figures 9 and 10 showed substantial decreases in both the number and rate of drinking drivers involved in crashes over the past 10 years. A different pattern, however, occurs for nondrinking drivers. For example, from 1982 to 1989 the number of nondrinking drivers involved in crashes increased by 37% (from 272,024 to 373,655). Thus, the decrease in crash-involved drinking drivers must be viewed against a backdrop of an increase in the number of crashes involving drivers who were not drinking. When these two opposite trends are combined, they produce the dramatic decrease in the Problem Index shown in Figure 11. In 1990, and 1991, however, a different pattern occurred -- in contrast to previous years, the number of crash-involved nondrinking drivers decreased to 297,535. As a result, the Problem Index increased slightly suggesting that relative to nondrinking drivers, the proportion of drinking drivers involved in crashes has not improved over the past two years.

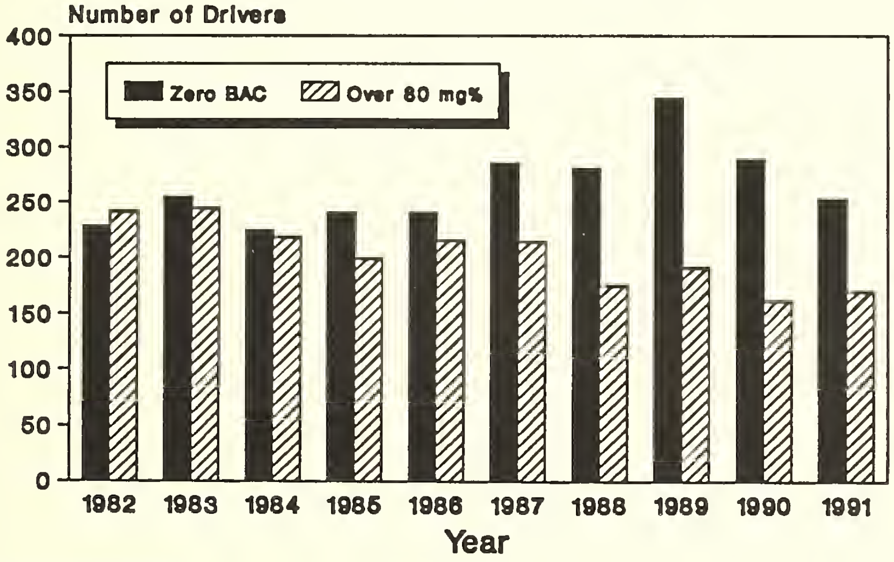
Figure 11
Drinking and Nondrinking Drivers
Involved in Traffic Crashes



Ontario, 1982-1991

♦ **Drinking driver fatalities.** Another indicator of the magnitude of the alcohol-crash problem is the extent of alcohol use among driver fatalities from the TIRF Fatality Database. Figure 12 displays the number of nondrinking (i.e., zero BAC) driver fatalities and those with BACs in excess of the legal limit (i.e., 80 mg%) in Ontario from 1982 through 1991. From 1982 to 1990, the number of driver fatalities with illegal BACs dropped 33% -- from 241 in 1982 to 161 in 1990. In 1991, this number rose slightly to 170. In contrast, over the same period of time, the number of nondrinking driver fatalities increased 25% -- from 228 in 1982 to 344 in 1989 and then declined to 252 in 1991.

Figure 12
Alcohol Use Among Driver Fatalities

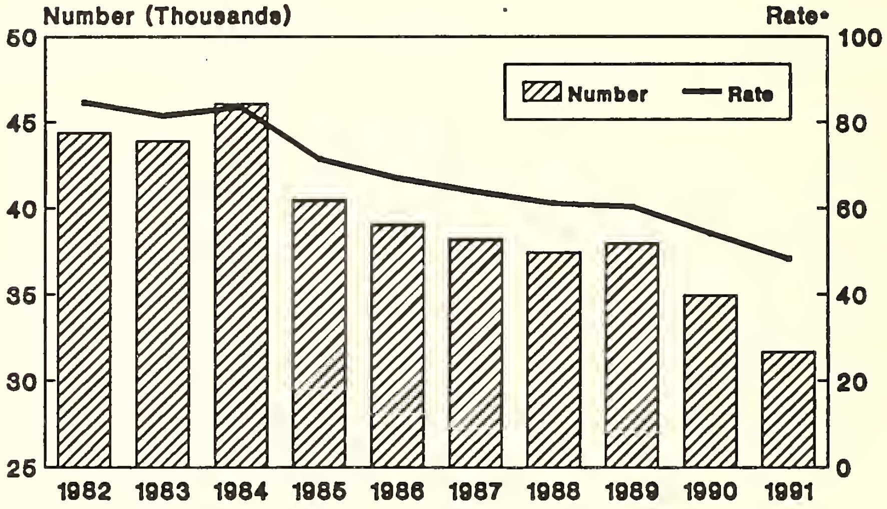


Ontario, 1982-1991

♦ **Impaired driving charges.** The number of persons charged with impaired driving offences each year is another indicator of trends in drinking-driving problems. While these data will undoubtedly include some individuals who are charged with impaired driving on more than one occasion in a year, they do reflect the number of times a police officer arrests and charges a driver with an impaired driving offence.

Figure 13 presents these data for Ontario from 1982 through 1991. Also included is the rate (i.e., the number of persons charged per 10,000 licensed drivers, represented by the line). Between 1982 and 1984, the number of persons charged with impaired driving in Ontario actually increased slightly, from 44,383 in 1982 to 46,045 in 1984. Since 1984, however, the number of persons charged has declined. In 1991, 31,673 persons were charged with an impaired driving offence, a decrease of 9.3% from 1990.

Figure 13
Persons Charged with Impaired Driving
(Ontario, 1982-1991)



* Charges per 10,000 licensed drivers

Interpreting changes in these data is not without problems. First, law enforcement statistics do not measure the frequency of impaired driving behaviour, a task for which roadside surveys are better suited. Second, enforcement practices may have a profound effect on the number of persons who are charged. Caution is urged in interpreting the meaning of changes in charge statistics.

3.6 Summary

Drinking Drivers Involved in Crashes

*** During 1991, 311,547 drivers were involved in traffic crashes in Ontario. This was 8.9% fewer than during 1990.

*** Drinking drivers comprised 4.5% of all drivers involved in crashes. The number of crash-involved drinking drivers fell 9.6%, from 15,506 in 1990 to 14,012 in 1991.

*** 6,418 drivers (2.1%) were judged by investigating police officers to be *impaired* by alcohol; 7,594 (2.4%) were reported to *have been drinking*.

*** Among drivers involved in *property damage* crashes, 1.9% had been drinking and 1.5% were impaired. Among drivers involved in *personal injury* crashes, 3.6% had consumed alcohol and 3.1% were judged impaired. Among drivers involved in *fatal* crashes, 7.1% had been drinking and 16.7% were impaired.

Characteristics of Crash-Involved Drinking Drivers

*** 88% of crash-involved drinking drivers were male. This was true regardless of crash severity.

*** Drivers aged *25 to 34* accounted for the largest proportion (38%) of all drinking drivers involved in crashes. Drivers aged *19 to 24* were second, accounting for 23%.

*** Drivers *under 35* years of age are overrepresented among drinking drivers involved in crashes relative to their representation in the licensed driver population.

Fatally Injured Drivers

*** Among drivers fatally injured in crashes who were tested, 55% showed no evidence of alcohol; 45% were found to have consumed alcohol prior to the crash; and 37% had a BAC over 80 mg%.

*** Among fatally injured drinking drivers, 82% had a BAC in excess of 80 mg%; 62% had a BAC over 150 mg%.

Characteristics of Drinking Driver Crashes

*** As in previous years, more drinking drivers crashed during summer months (29%) than during winter months (19%).

*** Drinking drivers crashed more frequently on weekends (64%) than weekdays (36%). One-quarter of all drinking drivers crashed on Saturday.

*** Over 70% of drinking drivers crashed between 6 p.m. and 3 a.m. In comparison, almost half of nondrinking drivers crashed between noon and 6 p.m.

Trends in Drinking and Driving

*** The number of crash-involved drinking drivers decreased from 26,588 in 1982 to 14,012 in 1991 -- a 47% decrease!

*** From 1982 to 1991, the number of licensed drivers in Ontario increased by 20%, from 5.2 million to 6.6 million. The number of drinking drivers involved in crashes per 1,000 licensed drivers declined by 58%, from a rate of 5.07 in 1982 to 2.13 in 1991.

*** The ratio of drinking to nondrinking drivers involved in crashes -- i.e., the Problem Index -- fell dramatically from 1982 through 1989. There was a slight increase in the value of the Problem Index in 1990 and 1991 indicating that relative to nondrinking drivers, the proportion of drinking drivers involved in crashes did not improve.

*** The number of driver fatalities with BACs in excess of 80 mg% has fallen by 29% since 1982. In 1991, 37% of fatally injured drivers had a BAC over 80 mg%.

SOURCES OF MORE INFORMATION

Readers wishing more information on drinking and driving may either contact the Office of Drinking/Driving Countermeasures or refer to publications listed below.

CONTACT:
Office of Drinking/Driving Countermeasures
Ministry of the Attorney General
720 Bay Street, 3rd Floor
Toronto, Ontario
M5G 2K1
Tel: (416) 326-4408

REFERENCES

*** **Ontario Road Safety Annual Report for 1991,**
Ministry of Transportation.

Source:
Transportation Regulation Development Branch
Road User Safety Office
West Building
1201 Wilson Avenue
Downsview, Ontario
M3M 1J8
Tel: (416) 235-3585

*** **Impaired Driving Statistics, 1991**
Juristat Service Bulletin, Vol. 12, No. 17, September, 1992.
(Catalogue 85-002)

Source: Statistics Canada

This and other Statistics Canada publications may be purchased from local authorized and other community bookstores, through local Statistics Canada offices, or by mail order to Publication Sales and Services, *Ottawa, K1A 0T6.*

*** **Alcohol Use By Persons Fatally Injured in Motor Vehicle Accidents: Canada, 1990**
(Publication No. TP- 010928E)

Source:
Road Safety and Motor Vehicle Regulation Directorate
Transport Canada
Canada Building
344 Slater Street
Ottawa, Ontario
K1A 0N5

APPENDIX A

DRINKING AND DRIVING IN ONTARIO

1991 STATISTICS

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TABLE 1

DRIVERS INVOLVED IN TRAFFIC CRASHES
ONTARIO, 1982 - 1991

Year & Sex	Property Damage				Personal Injury				Fatal				Total			
	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR
Male																
1982	7984	4319	12303	133222	7393	3786	11179	66244	182	267	449	763	15559	8372	23931	200229
1983	6811	3923	10734	125835	6653	3568	10221	65271	162	319	481	820	13626	7810	21436	191926
1984	6822	3931	10753	135973	6465	3641	10106	71168	190	264	454	851	13477	7836	21313	207992
1985	5302	3244	8546	127478	6041	3562	9603	81791	162	243	405	833	11505	7049	18554	210102
1986	4370	2816	7186	124164	4869	3364	8233	81920	135	254	389	842	9374	6434	15808	206926
1987	4562	2947	7509	132016	5005	3680	8685	90362	133	259	392	939	9700	6886	16586	223317
1988	4800	3216	8016	156928	4271	3110	7381	82678	144	231	375	905	9215	6557	15772	240511
1989	4861	3403	8264	174450	3769	3201	6970	83832	177	145	322	964	8807	6749	15556	259246
1990	4203	3333	7536	156029	3206	2717	5923	68018	86	181	267	839	7495	6231	13726	224886
1991	3684	2961	6645	146124	2906	2567	5473	56267	75	186	261	704	6665	5714	12379	203095
Female																
1982	911	364	1275	46395	992	341	1333	25229	21	28	49	171	1924	733	2657	71795
1983	888	402	1290	46283	981	362	1343	26357	14	20	34	229	1883	784	2667	72869
1984	851	438	1289	51207	869	373	1242	28600	26	18	44	221	1746	829	2575	80028
1985	680	376	1056	48541	858	351	1209	34123	17	23	40	218	1555	750	2305	82882
1986	519	332	851	48940	688	345	1033	35899	8	23	31	229	1215	700	1915	85068
1987	542	338	880	53192	829	396	1225	40537	18	28	46	277	1389	762	2151	94006
1988	635	371	1006	64388	644	365	1009	38244	19	13	32	248	1298	749	2047	102880
1989	591	382	973	74118	575	355	930	40022	14	15	29	269	1180	752	1932	114409
1990	514	419	933	67598	488	326	814	34015	12	21	33	224	1014	766	1780	101837
1991	484	396	880	65182	432	288	720	29025	13	20	33	233	929	704	1633	94440
Total																
1982	8895	4683	13578	179617	8385	4127	12512	91473	203	295	498	934	17483	9105	26588	272024
1983	7699	4325	12024	172118	7634	3930	11564	91628	176	339	515	1049	15509	8594	24103	264795
1984	7673	4369	12042	187180	7334	4014	11348	99768	216	282	498	1072	15223	8665	23888	288020
1985	5982	3620	9602	176019	6899	3913	10812	115914	179	266	445	1051	13060	7799	20859	292984
1986	4889	3148	8037	173104	5557	3709	9266	117819	143	277	420	1071	10589	7134	17723	291994
1987	5104	3285	8389	185208	5834	4076	9910	130899	151	287	438	1216	11089	7648	18737	317323
1988	5435	3587	9022	221316	4915	3475	8390	120922	163	244	407	1153	10513	7306	17819	343391
1989	5452	3785	9237	248568	4344	3556	7900	123854	191	160	351	1233	9987	7501	17488	373655
1990	4717	3752	8469	223627	3694	3043	6737	102033	98	202	300	1063	8509	6997	15506	326723
1991	4168	3357	7525	211306	3338	2855	6193	85292	88	206	294	937	7594	6418	14012	297535

KEY:
HBD -- Drivers reported by police to have been drinking
IMP -- Drivers judged by police to have their ability to drive impaired by alcohol
D/D -- Sum of drivers reported by police to have consumed alcohol; D/D = HBD + IMP
NOR -- Drivers whose condition was reported by police as "normal" (i.e., nondrinking)

TABLE 2. AGE OF DRIVERS INVOLVED IN TRAFFIC CRASHES: ONTARIO, 1991

Sex & Age	Property Damage				Personal Injury				Fatal				Total			
	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR
Male																
0-15	10	2	12	244	11	5	16	942	0	0	0	9	21	7	28	1195
16-18	214	71	285	9290	182	94	276	3815	8	10	18	41	404	175	579	13146
19-24	1019	552	1571	24551	793	516	1309	9802	22	35	57	99	1834	1103	2937	34452
25-34	1296	1144	2440	43402	1075	988	2063	16188	26	64	90	182	2397	2196	4593	59772
35-44	646	642	1288	29518	491	555	1046	10824	8	44	52	146	1145	1241	2386	40488
45-54	277	316	593	18177	205	239	444	6590	3	16	19	94	485	571	1056	24861
55-64	134	152	286	12064	83	120	203	4609	4	11	15	73	221	283	504	16746
65+	88	82	170	8878	66	50	116	3497	4	6	10	60	158	138	296	12435
Total	3684	2961	6645	146124	2906	2567	5473	56267	75	186	261	704	6665	5714	12379	203095
Female																
0-15	1	1	2	74	3	0	3	328	0	0	0	2	4	1	5	404
16-18	23	11	34	4787	26	14	40	2265	2	0	2	15	51	25	76	7067
19-24	114	65	179	11172	103	49	152	5053	3	5	8	31	220	119	339	16256
25-34	195	161	356	18716	158	114	272	8191	4	11	15	61	357	286	643	26968
35-44	103	96	199	14571	87	61	148	6478	1	2	3	51	191	159	350	21100
45-54	30	41	71	7749	35	36	71	3362	0	1	1	22	65	78	143	11133
55-64	9	10	19	4356	11	12	23	1802	3	1	4	19	23	23	46	6177
65+	9	11	20	3757	9	2	11	1546	0	0	0	32	18	13	31	5335
Total	484	396	880	65182	432	288	720	29025	13	20	33	233	929	704	1633	94440
Total																
0-15	11	3	14	318	14	5	19	1270	0	0	0	11	25	8	33	1599
16-18	237	82	319	14077	208	108	316	6080	10	10	20	56	455	200	655	20213
19-24	1133	617	1750	35723	896	565	1461	14855	25	40	65	130	2054	1222	3276	50708
25-34	1491	1305	2796	62118	1233	1102	2335	24379	30	75	105	243	2754	2482	5236	86740
35-44	749	738	1487	44089	578	616	1194	17302	9	46	55	197	1336	1400	2736	61588
45-54	307	357	664	25926	240	275	515	9952	3	17	20	116	550	649	1199	35994
55-64	143	162	305	16420	94	132	226	6411	7	12	19	92	244	306	550	22923
65+	97	93	190	12635	75	52	127	5043	4	6	10	92	176	151	327	17770
Total	4168	3357	7525	211306	3338	2855	6193	85292	88	206	294	937	7594	6418	14012	297535

TABLE 3

AGE AND SEX OF DRIVERS IN LICENSED AND CRASH-INVOLVED POPULATIONS

ONTARIO, 1991

AGE & SEX	No. of Drivers Licensed	% of Licensed Drivers	Crash-Involved HBD	% of Drivers HBD	Crash-Involved IMP	% of Drivers IMP	Crash-Involved D/D	% of Drivers D/D	Crash-Involved NOR	% of Drivers NOR
Male										
16-18	117720	3.3%	404	6.1%	175	3.1%	579	4.7%	13146	6.5%
19-24	399839	11.1%	1834	27.6%	1103	19.3%	2937	23.8%	34452	17.1%
25-34	896240	24.9%	2397	36.1%	2196	38.5%	4593	37.2%	59772	29.6%
35-44	791047	22.0%	1145	17.2%	1241	21.7%	2386	19.3%	40488	20.1%
45-54	557372	15.5%	485	7.3%	571	10.0%	1056	8.5%	24861	12.3%
55-64	425827	11.8%	221	3.3%	283	5.0%	504	4.1%	16746	8.3%
65+	409719	11.4%	158	2.4%	138	2.4%	296	2.4%	12435	6.2%
Total	3597764	100%	6644	100%	5707	100%	12351	100%	201900	100%
Female										
16-18	95553	3.2%	51	5.5%	25	3.6%	76	4.7%	7067	7.5%
19-24	334403	11.2%	220	23.8%	119	16.9%	339	20.8%	16256	17.3%
25-34	777267	26.1%	357	38.6%	286	40.7%	643	39.5%	26968	28.7%
35-44	710718	23.9%	191	20.6%	159	22.6%	350	21.5%	21100	22.4%
45-54	460993	15.5%	65	7.0%	78	11.1%	143	8.8%	11133	11.8%
55-64	310825	10.4%	23	2.5%	23	3.3%	46	2.8%	6177	6.6%
65+	286713	9.6%	18	1.9%	13	1.8%	31	1.9%	5335	5.7%
Total	2976472	100%	925	100%	703	100%	1628	100%	94036	100%
Both										
16-18	213273	3.2%	455	6.0%	200	3.1%	655	4.7%	20213	6.8%
19-24	734242	11.2%	2054	27.1%	1222	19.1%	3276	23.4%	50708	17.1%
25-34	1673507	25.5%	2754	36.4%	2482	38.7%	5236	37.5%	86740	29.3%
35-44	1501765	22.8%	1336	17.7%	1400	21.8%	2736	19.6%	61588	20.8%
45-54	1018365	15.5%	550	7.3%	649	10.1%	1199	8.6%	35994	12.2%
55-64	736652	11.2%	244	3.2%	306	4.8%	550	3.9%	22923	7.7%
65+	696432	10.6%	176	2.3%	151	2.4%	327	2.3%	17770	6.0%
Total	6574236	100%	7569	100%	6410	100%	13979	100%	295936	100%

TABLE 4

CRASH INVOLVEMENT BY AGE AND SEX OF LICENSED DRIVERS:
Number and Rate per 1,000 Licensed Drivers
ONTARIO, 1991

AGE & SEX	No. of Drivers Licensed	Crash-Involved HBD	HBD Rate	Crash-Involved IMP	IMP Rate	Crash-Involved D/D	D/D Rate	Crash-Involved NOR	NOR Rate
Male									
16-18	117720	404	3.43	175	1.49	579	4.92	13146	111.67
19-24	399839	1834	4.59	1103	2.76	2937	7.35	34452	86.16
25-34	896240	2397	2.67	2196	2.45	4593	5.12	59772	66.69
35-44	791047	1145	1.45	1241	1.57	2386	3.02	40488	51.18
45-54	557372	485	0.87	571	1.02	1056	1.89	24861	44.60
55-64	425827	221	0.52	283	0.66	504	1.18	16746	39.33
65+	409719	158	0.39	138	0.34	296	0.72	12435	30.35
Total	3597764	6644	1.85	5707	1.59	12351	3.43	201900	56.12
Female									
16-18	95553	51	0.53	25	0.26	76	0.80	7067	73.96
19-24	334403	220	0.66	119	0.36	339	1.01	16256	48.61
25-34	777267	357	0.46	286	0.37	643	0.83	26968	34.70
35-44	710718	191	0.27	159	0.22	350	0.49	21100	29.69
45-54	460993	65	0.14	78	0.17	143	0.31	11133	24.15
55-64	310825	23	0.07	23	0.07	46	0.15	6177	19.87
65+	286713	18	0.06	13	0.05	31	0.11	5335	18.61
Total	2976472	925	0.31	703	0.24	1628	0.55	94036	31.59
Both									
16-18	213273	455	2.13	200	0.94	655	3.07	20213	94.78
19-24	734242	2054	2.80	1222	1.66	3276	4.46	50708	69.06
25-34	1673507	2754	1.65	2482	1.48	5236	3.13	86740	51.83
35-44	1501765	1336	0.89	1400	0.93	2736	1.82	61588	41.01
45-54	1018365	550	0.54	649	0.64	1199	1.18	35994	35.34
55-64	736652	244	0.33	306	0.42	550	0.75	22923	31.12
65+	696432	176	0.25	151	0.22	327	0.47	17770	25.52
Total	6574236	7569	1.15	6410	0.98	13979	2.13	295936	45.01

TABLE 5

ALCOHOL USE AMONG DRIVER FATALITIES*

ONTARIO, 1991

Category of Drivers	Number of Drivers	Number Tested for BAC	(HBD) Positive BAC	(IMP) BAC >80mg%	Drivers Grouped By BAC (mg%)				
					Zero	1-49	50-80	81-150	>150
Age									
16 - 18	27	26	11	8	15	2	1	3	5
19 - 24	90	84	36	28	48	4	4	10	18
25 - 34	131	125	79	64	46	14	1	13	51
35 - 44	86	76	36	33	40	2	1	7	26
45 - 54	65	56	17	15	39	2	0	2	13
55 - 64	59	47	18	14	29	4	0	5	9
65+	70	45	10	8	35	0	2	1	7
Sex									
Male	414	369	188	154	181	25	9	36	118
Female	114	90	19	16	71	3	0	5	11
Type of Vehicle									
Automobile	381	327	135	109	192	20	6	27	82
Motorcycle	40	38	23	19	15	2	2	6	13
Truck / Van	98	87	47	42	40	4	1	8	34
Tractor-Trailer	9	7	2	0	5	2	0	0	0
Type of Collision									
Single-Vehicle	235	205	132	118	73	10	4	23	95
Multiple-Vehicle	293	254	75	52	179	18	5	18	34
Total	528	459	207	170	252	28	9	41	129

* Source: **Fatality Database, Traffic Injury Research Foundation of Canada.**
(Data from Ontario obtained with the cooperation and assistance of the Office of Chief Coroner for Ontario and the Ministry of Transportation. TIRF's Fatality Database is jointly sponsored by the Canadian Council of Motor Transport Administrators and Transport Canada.)

TABLE 6. DRIVERS IN TRAFFIC CRASHES: MONTH OF YEAR - ONTARIO, 1991

Month of Year	Property Damage				Personal Injury				Fatal				Total			
	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR
Male																
January	296	189	485	15744	150	148	298	4769	2	9	11	72	448	346	794	20585
February	274	245	519	12184	163	191	354	4068	4	9	13	44	441	445	886	16296
March	304	264	568	10867	191	218	409	3849	7	14	21	55	502	496	998	14771
April	258	238	496	10055	228	202	430	4224	3	19	22	44	489	459	948	14323
May	337	244	581	11253	306	212	518	5073	7	16	23	46	650	472	1122	16372
June	337	284	621	10775	319	277	596	5339	17	19	36	65	673	580	1253	16179
July	324	250	574	11604	281	245	526	5371	4	22	26	79	609	517	1126	17054
August	332	256	588	11992	325	265	590	5354	10	19	29	68	667	540	1207	17414
September	321	273	594	11885	302	239	541	5144	7	18	25	65	630	530	1160	17094
October	343	302	645	13833	260	221	481	5222	4	19	23	58	607	542	1149	19113
November	317	258	575	14040	245	218	463	4428	3	13	16	62	565	489	1054	18530
December	241	158	399	11892	136	131	267	3426	7	9	16	46	384	298	682	15364
TOTAL	3684	2961	6645	146124	2906	2567	5473	56267	75	186	261	704	6665	5714	12379	203095
Female																
January	39	34	73	6988	24	12	36	2494	1	0	1	23	64	46	110	9505
February	26	28	54	5704	19	23	42	2126	0	3	3	21	45	54	99	7851
March	49	42	91	4742	39	29	68	1974	0	1	1	13	88	72	160	6729
April	34	33	67	4550	30	30	60	2250	1	0	1	9	65	63	128	6809
May	45	32	77	5152	28	26	54	2649	2	2	4	23	75	60	135	7824
June	51	25	76	4754	52	32	84	2696	1	2	3	16	104	59	163	7466
July	50	34	84	4862	38	26	64	2659	1	1	2	21	89	61	150	7542
August	46	47	93	5064	55	29	84	2526	2	5	7	32	103	81	184	7622
September	27	35	62	5218	41	21	62	2631	3	2	5	23	71	58	129	7872
October	42	43	85	6423	55	28	83	2708	0	0	0	19	97	71	168	9150
November	47	27	74	6451	32	19	51	2449	0	2	2	19	79	48	127	8919
December	28	16	44	5274	19	13	32	1863	2	2	4	14	49	31	80	7151
TOTAL	484	396	880	65182	432	288	720	29025	13	20	33	233	929	704	1633	94440

... continued

TABLE 6 (continued). DRIVERS IN TRAFFIC CRASHES: MONTH OF YEAR - ONTARIO, 1991

Month of Year	Property Damage				Personal Injury				Fatal				Total			
	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR
Total																
January	335	223	558	22732	174	160	334	7263	3	9	12	95	512	392	904	30090
February	300	273	573	17888	182	214	396	6194	4	12	16	65	486	499	985	24147
March	353	306	659	15609	230	247	477	5823	7	15	22	68	590	568	1158	21500
April	292	271	563	14605	258	232	490	6474	4	19	23	53	554	522	1076	21132
May	382	276	658	16405	334	238	572	7722	9	18	27	69	725	532	1257	24196
June	388	309	697	15529	371	309	680	8035	18	21	39	81	777	639	1416	23645
July	374	284	658	16466	319	271	590	8030	5	23	28	100	698	578	1276	24596
August	378	303	681	17056	380	294	674	7880	12	24	36	100	770	621	1391	25036
September	348	308	656	17103	343	260	603	7775	10	20	30	88	701	588	1289	24966
October	385	345	730	20256	315	249	564	7930	4	19	23	77	704	613	1317	28263
November	364	285	649	20491	277	237	514	6877	3	15	18	81	644	537	1181	27449
December	269	174	443	17166	155	144	299	5289	9	11	20	60	433	329	762	22515
TOTAL	4168	3357	7525	211306	3338	2855	6193	85292	88	206	294	937	7594	6418	14012	297535

TABLE 7. DRIVERS IN TRAFFIC CRASHES: DAY OF WEEK - ONTARIO, 1991

Day of Week	Property Damage				Personal Injury				Fatal				Total			
	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR
Male																
Monday	266	234	500	19802	216	203	419	7661	6	12	18	118	488	449	937	27581
Tuesday	293	250	543	20682	224	235	459	7644	4	10	14	79	521	495	1016	28405
Wednesday	344	268	612	21128	231	212	443	8039	12	11	23	100	587	491	1078	29267
Thursday	412	377	789	24138	321	285	606	8907	6	25	31	99	739	687	1426	33144
Friday	703	552	1255	28051	515	431	946	10404	13	29	42	118	1231	1012	2243	38573
Saturday	951	723	1674	19653	806	678	1484	7998	22	65	87	86	1779	1466	3245	27737
Sunday	715	557	1272	12670	593	523	1116	5614	12	34	46	104	1320	1114	2434	18388
Total	3684	2961	6645	146124	2906	2567	5473	56267	75	186	261	704	6665	5714	12379	203095
Female																
Monday	30	28	58	8879	34	16	50	4100	2	0	2	32	66	44	110	13011
Tuesday	29	57	86	9357	36	38	74	4225	0	3	3	19	65	98	163	13601
Wednesday	44	35	79	9770	41	26	67	4254	1	0	1	35	86	61	147	14059
Thursday	57	47	104	11412	32	36	68	4968	1	2	3	33	90	85	175	16413
Friday	83	64	147	12115	78	54	132	5089	2	4	6	38	163	122	285	17242
Saturday	131	101	232	8496	109	69	178	3834	2	7	9	37	242	177	419	12367
Sunday	110	64	174	5153	102	49	151	2555	5	4	9	39	217	117	334	7747
Total	484	396	880	65182	432	288	720	29025	13	20	33	233	929	704	1633	94440
Total																
Monday	296	262	558	28681	250	219	469	11761	8	12	20	150	554	493	1047	40592
Tuesday	322	307	629	30039	260	273	533	11869	4	13	17	98	586	593	1179	42006
Wednesday	388	303	691	30898	272	238	510	12293	13	11	24	135	673	552	1225	43326
Thursday	469	424	893	35550	353	321	674	13875	7	27	34	132	829	772	1601	49557
Friday	786	616	1402	40166	593	485	1078	15493	15	33	48	156	1394	1134	2528	55815
Saturday	1082	824	1906	28149	915	747	1662	11832	24	72	96	123	2021	1643	3664	40104
Sunday	825	621	1446	17823	695	572	1267	8169	17	38	55	143	1537	1231	2768	26135
Total	4168	3357	7525	211306	3338	2855	6193	85292	88	206	294	937	7594	6418	14012	297535

TABLE 8. DRIVERS IN TRAFFIC CRASHES: HOUR OF CRASH - ONTARIO, 1991

Hour of Crash	Property Damage				Personal Injury				Fatal				Total			
	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IMP	D/D	NOR	HBD	IM	D/D	NOR
Male																
12am-3am	1077	834	1911	4997	865	736	1601	2101	20	64	84	37	1962	1634	3596	7135
3am-6am	344	171	515	2365	225	152	377	724	6	21	27	22	575	344	919	3111
6am-9am	101	74	175	19071	81	64	145	6639	1	6	7	86	183	144	327	25796
9am-12pm	81	65	146	22490	49	56	105	7905	2	1	3	107	132	122	254	30502
12pm-3pm	190	125	315	29022	132	99	231	11042	8	7	15	119	330	231	561	40183
3pm-6pm	464	392	856	38070	363	312	675	15113	10	22	32	176	837	726	1563	53359
6pm-9pm	664	573	1237	19849	530	539	1069	8334	16	27	43	100	1210	1139	2349	28283
9pm-12am	732	712	1444	9901	642	601	1243	4304	12	35	47	57	1386	1348	2734	14262
Unknown	31	15	46	359	19	8	27	105	0	3	3	0	50	26	76	464
Total	3684	2961	6645	146124	2906	2567	5473	56267	75	186	261	704	6665	5714	12379	203095
Female																
12am-3am	195	128	323	1472	144	84	228	702	1	10	11	10	340	222	562	2184
3am-6am	41	18	59	483	34	13	47	207	0	1	1	5	75	32	107	695
6am-9am	14	15	29	9322	13	14	27	3834	3	1	4	22	30	30	60	13178
9am-12pm	9	14	23	10004	12	8	20	4175	1	0	1	24	22	22	44	14203
12pm-3pm	20	11	31	13509	17	14	31	5875	1	1	2	48	38	26	64	19432
3pm-6pm	39	38	77	18283	46	37	83	8310	2	2	4	61	87	77	164	26654
6pm-9pm	72	83	155	8274	73	56	129	4018	4	1	5	30	149	140	289	12322
9pm-12am	91	88	179	3670	91	61	152	1821	1	4	5	31	183	153	336	5522
Unknown	3	1	4	165	2	1	3	83	0	0	0	2	5	2	7	250
Total	484	396	880	65182	432	288	720	29025	13	20	33	233	929	704	1633	94440
Total																
12am-3am	1272	962	2234	6469	1009	820	1829	2803	21	74	95	47	2302	1856	4158	9319
3am-6am	385	189	574	2848	259	165	424	931	6	22	28	27	650	376	1026	3806
6am-9am	115	89	204	28393	94	78	172	10473	4	7	11	108	213	174	387	38974
9am-12pm	90	79	169	32494	61	64	125	12080	3	1	4	131	154	144	298	44705
12pm-3pm	210	136	346	42531	149	113	262	16917	9	8	17	167	368	257	625	59615
3pm-6pm	503	430	933	56353	409	349	758	23423	12	24	36	237	924	803	1727	80013
6pm-9pm	736	656	1392	28123	603	595	1198	12352	20	28	48	130	1359	1279	2638	40605
9pm-12am	823	800	1623	13571	733	662	1395	6125	13	39	52	88	1569	1501	3070	19784
Unknown	34	16	50	524	21	9	30	188	0	3	3	2	55	28	83	714
Total	4168	3357	7525	211306	3338	2855	6193	85292	88	206	294	937	7594	6418	14012	297535

TABLE 9

Drinking Drivers In Traffic Crashes

Annual Number, Rate Per 1,000 Population, and Rate Per 1,000 Licensed Drivers

Ontario, 1982 - 1991

Year	Number of Crash-Involved Drinking Drivers	Estimated Population of Ontario	Drinking Driver Crashes Per 1,000 Population	Number of Licensed Drivers	Drinking Driver Crashes Per 1,000 Licensed Drivers
1982	26,588	8,706,960	3.05	5,247,198	5.07
1983	24,102	8,789,590	2.74	5,380,259	4.48
1984	23,888	8,873,010	2.69	5,513,911	4.33
1985	20,859	8,957,210	2.33	5,660,422	3.69
1986	17,723	9,113,000	1.94	5,817,799	3.05
1987	18,737	9,270,700	2.02	5,978,105	3.13
1988	17,819	9,439,600	1.89	6,118,112	2.91
1989	17,488	9,598,600	1.82	6,290,270	2.78
1990	15,506	9,743,300	1.59	6,448,883	2.40
1991	**14,012**	**10,084,885**	**1.39**	**6,574,231**	**2.13**

TABLE 10

ALCOHOL USE AMONG DRIVER FATALITIES*

ONTARIO, 1973 - 1991

Year	Number of Drivers**	Tested for BAC		Had Been Drinking***		Over 80 mg%		Drivers Grouped By BAC (mg%)		
		#	%	#	%	#	%	Zero	1-80	> 80
1973	747	689	92.2%	370	53.7%	307	44.6%	319	63	307
1974	723	649	89.8%	365	56.2%	280	43.1%	284	85	280
1975	776	721	92.9%	423	58.7%	316	43.8%	298	107	316
1976	612	539	88.1%	318	59.0%	251	46.6%	221	67	251
1977	603	534	88.6%	302	56.6%	243	45.5%	232	59	243
1978	587	557	94.9%	310	55.7%	256	46.0%	247	54	256
1979	580	527	90.9%	316	60.0%	255	48.4%	211	61	255
1980	641	590	92.0%	338	57.3%	282	47.8%	252	56	282
1981	666	627	94.1%	377	60.1%	311	49.6%	250	66	311
1982	554	518	93.5%	290	56.0%	241	46.5%	228	49	241
1983	595	548	92.1%	294	53.6%	244	44.5%	254	50	244
1984	526	488	92.8%	264	54.1%	218	44.7%	224	46	218
1985	536	499	93.1%	259	51.9%	199	39.9%	240	60	199
1986	528	497	94.1%	257	51.7%	215	43.3%	240	42	215
1987	610	539	88.4%	254	47.1%	214	39.7%	285	40	214
1988	553	520	94.0%	240	46.2%	175	33.7%	280	65	175
1989	640	584	91.3%	240	41.1%	191	32.7%	344	49	191
1990	544	486	89.3%	198	40.7%	161	33.1%	288	37	161
1991	528	459	86.9%	207	45.1%	170	37.0%	252	37	170
Average	608	556	91.5%	296	53.2%	238	42.8%	260	58	238

* Source: **Fatality Database, Traffic Injury Research Foundation of Canada.** (Data from Ontario obtained with the cooperation and assistance of the Office of Chief Coroner for Ontario and the Ministry of Transportation. TIRF's Fatality Database is jointly sponsored by the Canadian Council of Motor Transport Administrators and Transport Canada.)

** Drivers of highway vehicles (operators of farm tractors, snowmobiles, and bicycles excluded), 16 years of age or older, dying within 6 hours of crash involvement.

*** In this table, "had been drinking" means any amount of alcohol detected in blood samples, INCLUDING blood alcohol concentrations over 80 mg%.

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